

CLAIMS

1. Tower (4) for a wind turbine (1) wherein the tower (4) has an exterior side (4') and an interior side (4'') and wherein the tower is at least partly composed of
5 prefabricated metal wall parts (5) wherein each wall part comprises an essentially quadrangular portion (6) having an outwardly facing surface (7) in the direction of the exterior of the tower and an inwardly facing surface (8) in the direction of the interior of the tower, said portion having a top edge (9), a bottom edge (10), a first side edge (11) and a second side edge (12), wherein the first
10 side edge (11) is provided with a first flange (13) along at least part of the length of the first side edge (11) and wherein the second side edge (12) is provided with a second flange (14) along at least part of the length of the second side edge (12).
2. Tower (4) for a wind turbine (1) according to claim 1 wherein the first flanges
15 (13) and the second flanges (14) of the prefabricated metal wall parts (5) extend towards the interior side (4'') of the tower.
3. Tower (4) for a wind turbine (1) according to claim 1 or 2 wherein the
20 prefabricated metal wall parts (5) have a height and a width, and wherein at least two of the prefabricated metal wall parts (5) have a height which is about 2.5 times larger than the width of the bottom edge (10), preferably more than five times larger, more preferably more than 10 times larger.
4. Tower (4) for a wind turbine (1) according to any one of claims 1 to 3 wherein
25 the first flange (13) of a prefabricated metal wall part (5) is attached to the second flange (14) of an adjacent prefabricated metal wall part (5) by fastening means (17), wherein preferably the fastening means (17) comprise nuts and bolts.
5. Tower (4) for a wind turbine (1) according to any one of claims 1 to 5 wherein
30 the essentially quadrangular portion (6) of the prefabricated metal wall parts (5) is preferably essentially rectangular wherein the length of the first side edge (11) is approximately equal to the length of the second side edge (12) and wherein the bottom edge (10) is approximately equal to the length of the top edge (9), or wherein the essentially quadrangular portion (6) of the prefabricated metal wall parts (5) is essentially trapezoidal wherein the length of the first side edge (11) is

approximately equal to the length of the second side edge (12) and wherein the bottom edge (10) is longer than the top edge (9).

- 5 6. Tower (4) for a wind turbine (1) according to any one of claims 1 to 5 wherein the tower (4) has an essentially annular, preferably essentially circular horizontal cross-section
7. Tower (4) for a wind turbine (1) according to any one of claims 1 to 6 wherein the essentially quadrangular portion (6) of the prefabricated metal wall parts (5) are curved.
- 10 8. Tower (4) for a wind turbine (1) according to any one of claims 1 to 6 wherein the quadrangular portion (6) of the prefabricated metal wall part (5) is essentially flat, and wherein preferably the essentially quadrangular portion (6) of the prefabricated metal wall part (5) also comprises at least one kink essentially in the direction between the bottom edge (10) and the top edge (9') of the prefabricated metal wall part (5).
- 15 9. Tower (4) for a wind turbine (1) according to any one of claims 1 to 8 wherein the first flange (13) is provided with an additional first flange (15) and/or wherein the second flange (14) is provided with a an additional second flange (16).
- 20 10. Tower (4) for a wind turbine (1) according to any one of claims 1 to 8 wherein the first flanges (13) and/or the second flanges (14) are at least partly folded back towards the inwardly facing surface (8) of the essentially quadrangular portion (6) of the prefabricated metal wall part (5) for at least partly doubling the thickness of the first flanges (13) and/or second flanges (14).
- 25 11. Tower (4) for a wind turbine (1) according to any one of claims 1 to 10 wherein the prefabricated metal wall parts (5) are steel parts, preferably high strength steel parts.
- 30 12. Tower (4) for a wind turbine (1) according to any one of claims 1 to 11 wherein the first flange (13) of at least one prefabricated metal wall part (5) is vertically staggeredly attached to the second flange (14) of an adjacent prefabricated metal wall part (5) by fastening means (17), preferably wherein more than half of the adjacently positioned prefabricated metal wall parts (5) are attached vertically staggeredly.

13. Tower (4) for a wind turbine (1) according to any one of claims 1 to 12 wherein the circumference of the tower consists of n adjacently positioned prefabricated metal wall parts, wherein the angle between the first flange (13) and the second flange (14) is $360/n$.
- 5 14. Tower (4) for a wind turbine (1) according to any one of claims 1 to 13 wherein the tower is provided with stiffening means, such as one or more preferably substantially horizontal stiffening rings.
- 10 15. Prefabricated metal wall part (5) for use in a tower (4) for a wind turbine (1) according to any of the claims 1-14 characterised in that the prefabricated metal wall part (5) comprises an essentially quadrangular portion (6) having an outwardly facing surface (7) and an inwardly facing surface (8), said portion (6) having a top edge (9), a bottom edge (10), a first side edge (11) and a second side edge (12), wherein the first side edge (11) is provided with a first flange (13) along at least part of the length of the first side edge (11) and wherein the
15 second side edge (12) is provided with a second flange (14) along at least part of the length of the second side edge (12).
16. Method for constructing a tower (4) for a wind turbine (1) according to any of the preceding claims, wherein the tower (4) is at least partly composed of prefabricated metal wall parts (5) according to claim 15.